

WHAT IS CLAIMED IS:

1. A signal processing circuit comprising:

5 a D/A conversion circuit for converting input digital data into an analog voltage and outputting the converted analog voltage;

a first switch for selecting one of a plurality of supplied voltages and outputting the selected voltage as a supply analog voltage;

10 a second switch for selecting one of the converted analog voltage and the supply analog voltage and outputting the selected voltage as an analog voltage; and

a detection circuit for determining whether or not the input digital data matches internal set data, and, when it is
15 determined that the input digital data matches the set data, switching the first switch so that the supply analog voltage corresponding to the input digital data is output and switching the second switch so that the supply analog voltage is output.

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2. A signal processing circuit according to Claim 1, wherein the detection circuit has digital data corresponding to the supply analog voltage as the set data; and

the correspondence between the set digital data and the
25 supply analog voltage is similar to the correspondence between the input digital and the converted analog voltage in the D/A conversion circuit.

3. A signal processing circuit according to Claim 1,
wherein a power supply to the D/A conversion circuit is
turned off when the detection circuit determines that the
input digital data matches the internal set data, the D/A
5 conversion circuit being formed of a D/A converter and a
buffer.

4. A signal processing circuit according to Claim 1,
wherein the first switch selects one of a power supply
10 voltage supplied from a power supply circuit and 0 V by
switching, and outputs the selected voltage as the supply
analog voltage.

5. A signal processing circuit according to Claim 1,
15 wherein the first switch selects a predetermined voltage in a
range between a power supply voltage supplied from a power
supply circuit and 0 V by switching, and outputs the selected
voltage as the supply analog voltage.

20 6. A signal processing circuit according to Claim 2,
further comprising:

a counter for counting each piece of input digital data
in units of predetermined ranges; and

a power supply generation circuit for generating a
25 voltage corresponding to the set data and supplying the
generated voltage to the first switch,

wherein the detection circuit selects a piece of or a
plurality of pieces of digital data having a high input count

from the digital data as a result of counting, and sets the selected piece or pieces of digital data as the set data in units of the predetermined ranges.

5 7. A liquid crystal driving circuit using the signal processing circuit according to Claim 1 as a driving voltage generation circuit for supplying an analog voltage corresponding to input digital grayscale data to each of a plurality of signal lines.

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8. A signal processing circuit configured to:
receive digital data;
convert the received data to a converted analog voltage;
supply a plurality of supplied voltages to a switch
15 circuit configured to select one of the plurality as a supply analog voltage;
determining whether the received digital data matches stored set data; and
when the match occurs configuring the switch circuit
20 such that the supply analog voltage matching the received analog voltage is output.

9. The signal processing circuit as recited in claim 8 wherein the switch circuit comprises a first and second
25 switch, the first switch configured to select one of the plurality of supplied voltages as the supply analog voltage and the second switch configured to select one of the converted analog voltage and the supply analog voltage and to

transmit the selected voltage as an analog voltage from an output terminal of the signal processing circuit.

10. The signal processing circuit as recited in claim 8
5 wherein a power supply causing the circuit to convert the received data to a converted analog voltage is turned off when the detection circuit determines that the input digital data matches the internal set data.

10 11. The signal processing circuit as recited in claim 9 wherein the first switch selects a predetermined voltage in a range between a power supply voltage supplied from a power supply circuit and 0 V by switching, and outputs the selected voltage as the supply analog voltage.

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12. The signal processing circuit as recited in claim 9 wherein the signal processing circuit is further configured to determine the distribution of input digital data in units
20 of predetermined ranges and selecting the input digital data having a frequency of occurrence exceeding a threshold to the stored set data, wherein the signal processing circuit further comprises a power supply generation circuit for generating a voltage corresponding to the set data and
25 supplying the generated voltage to the first switch.